Results: Procedural success was 99% and 30-days mortality was 1.8%. Adverse events included: IABP support (13%), renal replacement therapy (6%), infections (3.6%). No cerebrovascular events or AMI occurred. Median length of hospital stay was 5 days. At discharge, 87% patients had MR ≤ 2+. At 1 year months EF was 34.7±10.4% (p=0.002 compared to baseline value). Actuarial survival at 1 year was 89.6±3%. Actuarial freedom from MR≥3+ at 1 year was 79.4±4%. At 1 year, MLHFQ improved from 40±15 to 22±16 (p<0.0001). Complete QoL restoration at 1 year was achieved in 43% of the survivors. At multivariate analysis, preoperative value of serum pro-BNP≤1600 pg/ml was identified as independent predictors of QoL restoration at 1 year (OR 0.2; p=0.03).
Conclusions: MitraClip therapy is a safe and effective therapeutic option for high-risk patients with FMR, leading to clinical and QoL improvements. Higher pro-BNP levels are associated with reduced likelihood of QoL restoration at 1 year.

TCT-697

Outcomes from MitraClip Therapy in Functional Compared to Degenerative Mitral Regurgitation: Multi-centre Experience from the MitraClip Asia-Pacific Registry (MARS)

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Background: The MitraClip device has been used as a percutaneous therapy for both functional and degenerative mitral regurgitation (MR). However, the actual impact of the etiology of MR on safety and efficacy outcomes has not been well elucidated. We aim to describe the differences in experience and outcomes with the MitraClip in both functional and degenerative MR.
Methods: The MitraClip Asia-Pacific Registry (MARS) registry is a multi-centre registry involving 6 different centres in the Asia-Pacific region (Singapore, Malaysia, Australia), collecting information on patients with ≥3+ MR who have undergone the MitraClip procedure. Primary efficacy outcome measured was a reduction in MR to ≤2+ at 30 days. The safety outcomes was 30-day freedom from major adverse events (MACE), including mortality, myocardial infarction, non-elective cardiac surgery for adverse events, renal failure, transfusion of ≥2 units of blood, ventilation for >48 h, septicaemia, and new onset of atrial fibrillation.
Results: A total of 125 patients (age 71.8±11.9years, 79 males) were included. Sixty-four (51.2%) patients had functional MR and 61 (48.8%) had degenerative MR. Thirty one (48.4%) of functional MR patients had ≥2 clips inserted compared to 34 (56.7%) degenerative MR patients (p=0.375). Acute procedural success was similar in both functional and degenerative MR (95.3% (61/64) vs 90.2% (55/61), p=0.316). 71.9% (46/64) of functional MR had a reduction in MR to ≤2+ at 30 days compared to 70.5% (43/61) of degenerative MR (p=0.510). There was no significant difference in both 30-day MACE (7.8% (n=5) vs 14.8% (n=9), p=0.264) as well as 30-day mortality rates (4.7% (n=3) vs 6.6% (n=4), p=0.713) between functional and degenerative MR.
Conclusions: The MitraClip procedure has similarly good short-term efficacy and safety outcomes in the treatment of both functional and degenerative MR.

TCT-698

Acute changes in mitral annular geometery after Mitraclip procedure in functional and degenerative mitral regurgitation

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Background: Percutaneous edge-to-edge mitral valve repair with the MitraClip device has been shown to be effective in reducing the severity of mitral regurgitation (MR), with resultant improvements in clinical outcomes. However, the actual changes in mitral annular geometry has not been well described. We aim to describe the effects of the MitraClip on the mitral annular geometry in both functional and degenerative mitral regurgitation
Methods: 33 consecutive patients (age 72±10 yr, 18 males) with ≥3+ MR, who underwent MitraClip procedure, were assessed with 3D transesophageal echocardiography before and immediately after the procedure. Specialised software (4D MV-Assessment, TomTec, GmbH) was used to process the images to obtain the following mitral annular parameters: anterior-posterior (AP) diameter, intercommissural diameter, 3D circumference (3D-C), 3D area (3D-A) and sphericity index (ratio of AP to intercommisural diameter).
Results: Thirteen (39.4%) patients had functional MR and 20 (60.6%) had degenerative MR. Twenty seven (81.8%) patients had a ≥2-grade reduction in MR while the remainder had a 1-grade reduction. In patients with functional MR, there was a significant reduction in AP diameter (3.9±0.5 vs 3.5±0.4cm, p<0.001), intercommisural diameter (4.3±0.4 vs 3.9±0.5cm, p=0.006), 3D-C (13.4±1.3 vs 12.6±1.3cm, p=0.011) and 3D-A (13.7±2.8 vs 11.5±2.6cm2, p<0.001). There was no significant change in sphericity index. Similarly, in patients with degenerative MR, there was a significant reduction in AP diameter (3.8±0.6 vs 3.4±0.5cm, p<0.001), intercommisural diameter (4.2±0.6 vs 3.7±0.5cm, p<0.001), 3D-C (13.4±1.9 vs 12.1±1.4cm, p<0.001) and 3D-A (13.5±3.8 vs 10.7±2.6cm2, p<0.001). There was no significant change in sphericity index. Comparing patients with functional vs. degenerative MR, there was no significant difference in the degree of change for all the above parameters.
Conclusions: Percutaneous edge-to-edge mitral valve repair results in acute changes in mitral annular geometry in both functional and degenerative MR. The actual impact of these geometrical changes on procedural success and durability of MR reduction requires further investigation.

TCT-699

MitraClip Therapy In Idiopathic Vs Ischemic Dilated Cardiomyopathy, A Single Center Experience.

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Background: MitraClip therapy is an emerging option for high-risk patients with functional mitral regurgitation (FMR). We compare MitraClip outcomes in idiopathic (ID) and ischemic (IS) MR.
Methods: From October 2008, 109 patients underwent MitraClip for FMR at our Institution. All patients underwent a standardized prospective data collection pathway.
Results: Patients were 27 ID (24.8%) and 82 IS (75.2%). Groups did not differ in age (p=0.13), NYHA (p=0.16) and pro-BNP (p=0.47). ID were slightly "lower-risk" due to less comorbidities: STS mortality 8.2% vs 11.5% (p=0.06), REDO 3.2% vs 40.7% (p=0.0004), COPD 11.1% vs 32.9 (p=0.02), mean creatinine 1.3±0.5 vs 1.65±0.9 mg/dL(p=0.04), inotropic support(0% vs 9.7%, p=0.03). ID however had a more impaired QoL (mean MLHFQ 48±16 vs 37±13, p=0.0008; SF36-F 29±7 vs 35±8, p=0.004; SF36-M 38±9 vs 39±9; 6MWT 168±76 vs 202±109 m, p=0.08) and a deeper heart dysfunction: mean EF 24±9% vs 30±11%, p=0.02; EDD 69±7 vs 67±8 mm(p=0.20). Implantation was successful in 100% vs 98.8%(p=0.56) and multiple clips were used in 77.8% vs 67.1% (p=0.19) of ID and IS respectively. Residual MR>2 was 11% vs 7.5% (p=0.26). There was no difference in procedural time, post-operative length of stay and complications (all p>0.05). In-hospital mortality was 0% in ID vs 2 in IS patients (p=0.41). Twenty-two ID and 64 IS reached 1-year follow-up: survival was 86.4% vs 90.6% (p=0.57), MR≤2 78% vs 80% (p=0.81) respectively. Similar outcomes were also observed regarding NYHA (18% vs 9%, p=0.26), MLHFQ (26±17 vs 21±17, p=0.16), SF36-F (41±11 vs 44±9, p=0.14), SF36-M (47±11 vs 48±10, p=0.30) and 6MWT (336±94 vs 329±78, p=0.59). All improvements were statistically significant compared to baseline, both in ID and IS (all p<0.05). At 1 year ID and IS had similar EDD (66±10 vs 63±8, p=0.21), but improvement appeared significant only in the IS (p=0.19 vs p=0.0004). EF recovery was also reduced in the ID vs IS (26±6 vs 36±11, p=0.0016; respectively p=0.13 and p=0.0036 against baseline).
Conclusions: MitraClip in ID is safe and effective in MR reduction and symptoms relief at 1-year, providing similar outcomes compared to IS. Ventricle remodeling and EF recovery however appear to be reduced in the ID setting.

TCT-700

Percutaneous Vs Surgical Repair For Degenerative Mitral Regurgitation In Octogenarians.

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Background: MitraClip therapy is emerging as a viable option for high-risk patients. The aim of the study was to assess MitraClip and surgical repair results in octogenarians with degenerative mitral regurgitation (DMR).
Methods: Since October 2008, 46 octogenarians underwent isolated mitral repair for DMR at our Institution using MitraClip or standard surgery. A retrospective comparison was conducted.
Results: MitraClip was performed in 24 (52.2%) and surgery in 22 (44.8%) cases. Baseline features for MitraClip and surgery respectively included: mean age 84.7±3.4 vs 81.8±1.6 years (p=0.0004), median STS mortality 8.4 vs 5.7 (p=0.02), NYHA>II 70.8% vs 40.9% (p=0.04), mean creatinine 1.2±0.3 vs 0.9±0.3 mg/dL (p=0.009), chronic obstructive pulmonary disease 33% vs 9% (p=0.04). The groups did not differ

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